

# aiwa

**OPERATING INSTRUCTIONS  
MANUAL DE INSTRUCCIONES  
MODE D'EMPLOI**

**COMPACT**  
**disc**  
**DIGITAL AUDIO**

## CT-X428M YU

**STEREO CAR CASSETTE RECEIVER  
RADIO-CASSETTE ESTEREOFONICO PARA AUTOMOVIL**

**ENGLISH**

### OWNER'S RECORD

For your convenience, record the model number and serial number (you will find them on the right side of your set) in the space provided below. Please refer to them when you contact your AIWA dealer in case of difficulty.

Model No.

Serial No.

# Welcome

Thank you for your purchasing this AIWA product. To optimize the performance of this unit, please read through this manual carefully.

In addition to this operating instructions manual, be sure to refer to the separate installation and connections manuals as well.

## PRECAUTIONS

- This unit is designed to be operated on a 12-volt DC negative-ground electrical system only.
- To prevent short-circuiting, disconnect the negative car battery terminal until the unit has been mounted and connected completely.
- When replacing the fuse, be sure to use one whose amperage rating is identical. Use of a fuse of higher amperage may cause serious damage to the unit.
- Keep screwdrivers, etc. and other metallic or magnetic objects away from the playback head.
- When your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- Keep the volume at such a level that you can hear outside warning sound (horns, sirens, etc.).

### Notes on cassettes

Do NOT expose cassettes to direct sunlight, extremely high or cold temperature or moisture. Keep cassettes away from equipment with built-in magnets to avoid unwanted noise or loss of sound quality.

Do NOT touch the tape of a cassette, as any dirt or dust will contaminate the heads.

Be sure to remove any cassette from the unit if you are not using it.

## NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:


- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

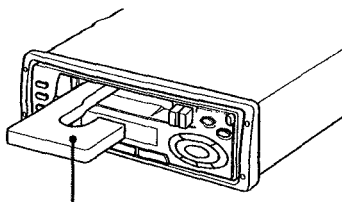
## CAUTION

Modifications or adjustments to this product, which are not expressly approved by the manufacturer, may void the user's right or authority to operate this product.

### Caution on the transit protection pad

The unit is shipped with a transit protection pad in the cassette compartment.

Be sure to press EJECT  to remove the pad before operating the unit.



Transit protection pad

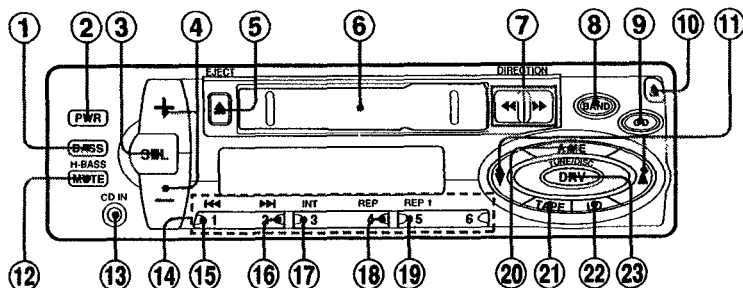
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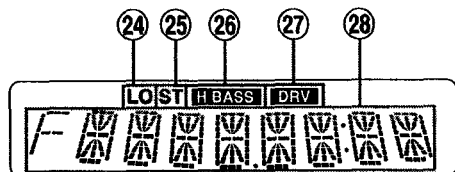
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# FRONT PANEL



## Display window

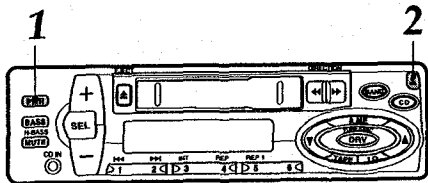


- ① H-BASS button
- ② PWR (power on/off) button
- ③ SEL (select) button
- ④ +/– (audio control) button
- ⑤ EJECT  $\Delta$  button
- ⑥ Cassette compartment
- ⑦ DIRECTION  $\leftarrow/\rightarrow$  buttons
- ⑧ BAND button
- ⑨ CD (CD Changer play/pause) button\*
- ⑩  $\updownarrow$  (release) button
- ⑪ TUNE/DISC  $\nabla/\Delta$  buttons
- ⑫ MUTE button
- ⑬ CD IN jack (3.5-mm dia.)
- ⑭ Preset station buttons 1 – 6
- ⑮  $\ll$  (back skip) button\*
- ⑯  $\gg$  (forward skip) button\*
- ⑰ INT (Intro) button\*

- ⑱ REP (repeat) button\*
- ⑲ REP 1 (repeat 1) button\*
- ⑳ A. ME (auto memory/preset scan) button
- ㉑ TAPE button
- ㉒ LO (local/DX) button
- ㉓ DRV (drivers sound stage adjustment) button
- ㉔ LO (local) indicator
- ㉕ ST (stereo) indicator
- ㉖ H BASS indicator
- ㉗ DRV (drivers sound stage adjustment) indicator
- ㉘ Main display section

\* Usable only when an optional CD changer is connected

# DETACHING AND ATTACHING THE FRONT PANEL

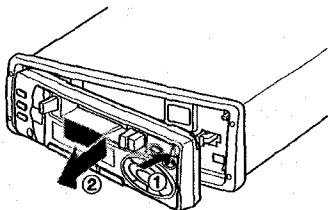


You can detach the front panel from the unit and carry it with you when you leave your car unattended.

When you carry the front panel out of your car, use the supplied carrying case.

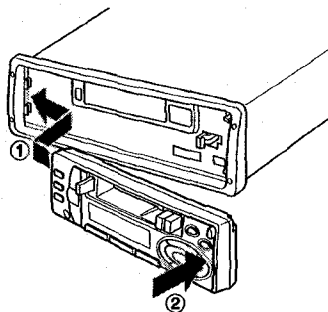
Before detaching the front panel, remove the cassette to prevent possible damage to the unit.

- 1** Press PWR to turn the unit off.
- 2** While supporting the front panel with one hand, press  $\uparrow$  to release one side of the panel. Care must be taken not to drop the panel. It may suddenly eject at this point.
- 3** When the front panel is lifted from the unit, remove it by pulling it away from the unit.



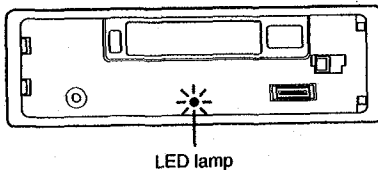
Do NOT touch the connector on the reverse side of the front panels, as doing so may contaminate the connector and cause a poor connection resulting in a malfunction.

## Attaching the front panel

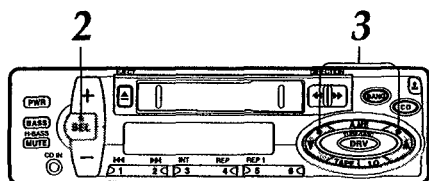


## Security Lamp

When the front panel is detached, you can find an LED lamp on the front side of the unit. This lamp is designed to deter theft, and continues to flash when the car's ignition is turned off with the front panel detached. This unit is not equipped with any other security systems such as a security alarm, so there are limitations to its effectiveness.



## SETTING THE CLOCK



- 1 Switch the ignition to ACC.
- 2 With the unit off, press and hold down SEL for more than 1.5 seconds until the clock indication appears.
  - If you do not proceed with step 3 within 5 seconds, the clock indication disappears.

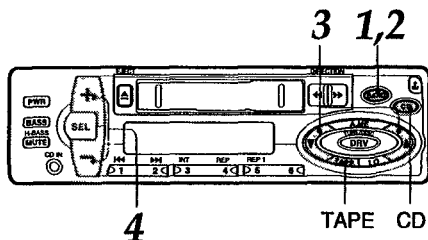


- 3 Press ▼ to set the hour.  
Press ▲ to set the minutes.
- 4 Press SEL to start working the clock from 0 second.

### Having the clock displayed while in Radio, Tape Play or CD Changer Play mode

Press and hold down SEL for more than 1.5 seconds. To return the unit to its former display, repeat the same procedure.

## RADIO OPERATION



You can turn the unit on by pressing any button except ▲, ▼, ◀ and ▶ on the front panel.

- 1 Press BAND to turn the radio on.  
The radio frequency appears.
- 2 Press BAND again to select the band from among F1 (FM1), F2 (FM2), F3 (FM3) and AM.  
The band indication appears cyclically in order.  
(F1, F2 and F3 share the same frequency range.)



Band indication

Frequency indication

- 3 Press (more than 0.5 second) either TUNE ▼ or TUNE ▲ to tune in the desired station.  
Press ▼ to decrease and ▲ to increase the frequency.  
The unit starts scanning and tunes in a station automatically (Seek tuning).  
Press the button again to cancel Seek tuning.  
Repeat the procedure until the desired station is tuned in.

### Note

If you press (less than 0.5 second at a time) either TUNE ▼ or TUNE ▲, the frequency decreases or increases step by step.

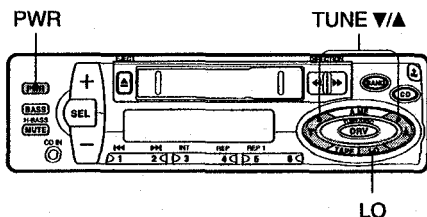
- 4 Adjust the volume with +/-.

**To turn the unit off**  
Press PWR.

### Note

The unit turns on in the last selected mode when you turned off the unit with the exceptions of pressing the following buttons.

- Pressing TAPE turns on the unit in Tape Play mode.
- Pressing CD turns on the unit in CD Changer Play mode.
- Pressing BAND turns on the unit in Radio mode.



### To turn the radio off

Press PWR. The frequency indication goes off. If you insert a cassette, the radio mode will automatically be inactivated as well.

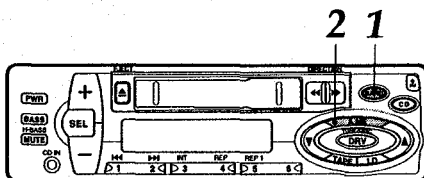
### The LO (local/DX) button

You can use Local mode when you wish to tune in only strong signal stations during seek tuning. In Radio mode, press LO to select Local mode. The "LO" indicator lights up.

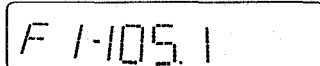
- Press LO to cancel Local mode and switch to the DX (distance) mode.
- The "ST" (stereo) indicator lights up when the tuned station is broadcasting in stereo and the reception condition is good.

## PRESETTING STATIONS

### To preset stations automatically (auto memory)



- 1 Press BAND to select a desired band from among F1 (FM1), F2 (FM2), F3 (FM3) and AM.



- 2 Press and hold A.M.E. for more than 1.5 seconds to activate the automatic presetting function.

The six strongest available stations will be stored in memory on the preset station buttons 1 to 6 in order of their signal strength. The "A MEM" indication appears while the unit is in this mode.

Use this function to automatically preset up to 6 stations each for F1, F2, F3 and AM (up to a total of 24 stations).

- When auto memory is completed, the preset stations are automatically scanned in order.
- To stop auto memory, press A.M.E. again.

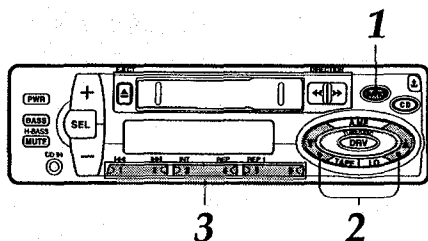
### To check the preset stations (preset scan)

- If you wish to check the preset stations, press A.M.E. for less than 1.5 seconds. The preset stations stored in memory will be tuned in for 5 seconds each in order.
- To stop this function, press A.M.E. again or press any of the preset station buttons 1 to 6.

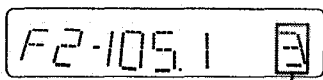
continued

## PRESETTING STATIONS

### To preset stations manually



- 1 Press **BAND** to select the band from among F1 (FM1), F2 (FM2), F3 (FM3) and AM.
- 2 Tune in the station that you wish to preset with **TUNE ▼** or **TUNE ▲**.
- 3 Press one of the preset station buttons **1 to 6** for approximately 1.5 seconds. The number of the pressed preset station button appears next to the frequency indication.



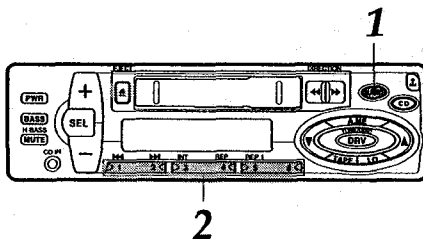
Preset number

Repeat these procedures to preset up to 6 stations each for F1, F2, F3 and AM.

- You can manually preset stations that have not been selected by auto memory.
- If you try to preset a station on a preset station button on which another station of the same band has already been preset, the previously preset station will be erased.

During presetting of stations, beeps are heard regardless of the beep on/off setting (page 13).

### To tune in the preset stations



- 1 Press **BAND** to select a desired band from among F1 (FM1), F2 (FM2), F3 (FM3) and AM.
- 2 Press the desired preset station button. The number of the pressed preset station button appears next to the frequency indication.

#### Active tuning reception control (ATRC)

This unit automatically suppresses FM noise caused by varying signal strength resulting from movement of the car.

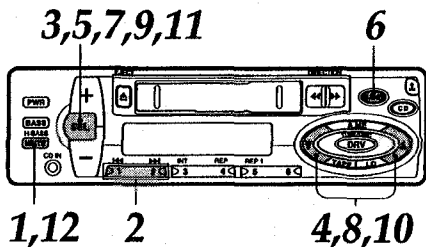
- The built-in automatic blending circuit mixes the left and right channel signals according to the strength of the reception. At the same time, the high-cut circuit activates to maintain the sound quality.
- If the reception becomes even weaker, the unit automatically switches to Monaural mode to reduce noise.



# MY INFORMATION SWITCH

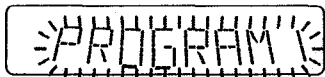
You can timer-activate the radio for up to two daily radio programs. The unit turns on and off in Radio mode at the preset time automatically.

## Setting the timer



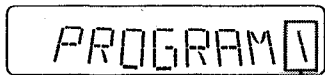
- 1 With the unit turned off, press MUTE for more than 1.5 seconds.

The "PROGRAM 1" indication flashes in the display window.



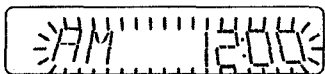
The number for which no program is preset flashes.

- 2 Press either of preset station button 1 or 2 to select PROGRAM 1 or 2.



The number on which a program is preset stops flashing.

- 3 Press SEL.  
The "ON TIME" indication flashes.  
Press SEL again.  
Timer indication flashes.

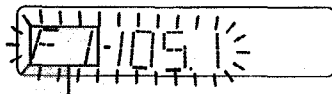


- 4 Set the time you wish the unit to turn on in Radio mode.

Press TUNE ▼ to set the hour.  
Press TUNE ▲ to set the minutes.

- 5 Press SEL.  
The "BAND SEL" indication flashes.

Press SEL again.  
Radio indication flashes.

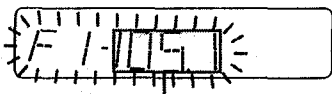


Band indication

- 6 Press BAND to select the band.

- 7 Press SEL.  
The "FREQ" indication flashes.

Press SEL again.  
Radio indication flashes.

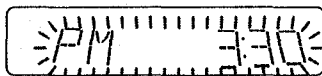


Frequency indication

- 8 Tune in the station that you wish to preset with TUNE ▼ or TUNE ▲.

- 9 Press SEL.  
The "OFF TIME" indication flashes.

Press SEL again.  
Timer indication flashes.



- 10 Set the time you wish the unit to turn off.

Press TUNE ▼ to set the hour.  
Press TUNE ▲ to set the minutes.

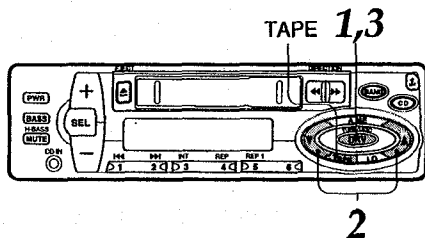
- 11 Press SEL.  
The clock indication appears.

- 12 Press MUTE.  
Your setting is stored in memory and the unit turns off.  
• If you preset another program, repeat all the steps from step 1.

continued

## MY INFORMATION SWITCH

### Activating the timer



- 1 With the unit turned off, press **DRV** for more than 1.5 seconds.  
The "PROGRAM" indication flashes in the display window.
- 2 Press **TUNE ▼** or **TUNE ▲** repeatedly until the "PROG ON" indication flashes.
- 3 Press **DRV** to turn the unit off.

#### To deactivate the timer

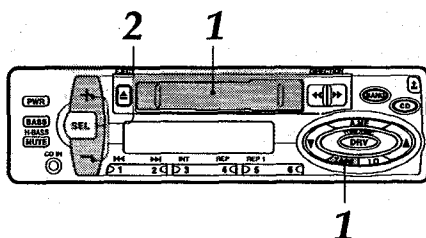
Press **TUNE ▼** or **TUNE ▲** repeatedly until the "PROG OFF" indication flashes in step 2.

#### Notes

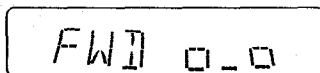
- When you preset two programs, make sure that both programs are not overlapped with each other.
- Even if the unit is in a mode other than Radio mode, the unit switches to Radio mode and tunes in the preset radio program at the preset time automatically. When the program is over, the unit returns to the former mode automatically.
- When this function is activated, **TUNE ▼/▲** and preset number buttons do not work for tuning-in stations.
- Even if you are listening to a radio program with this function, pressing the following buttons switches the unit to other mode:
  - Pressing **BAND** changes the unit to Radio mode.
  - Pressing **TAPE** changes the unit to Tape Play mode.
  - Pressing **CD** changes the unit to CD Changer Play mode.

To switch to **CD IN** mode, press **TAPE**, **CD**, or **BAND** before connecting CD player, etc. to the **CD IN** jack.

## TAPE PLAYBACK



- 1 Insert a cassette to start playback.  
If a cassette is already inserted, press **TAPE** to start playback.  
Playback starts in the direction that the unit played back previously.



- 2 Adjust the volume with **+/-**.

#### Press the following buttons to operate tape transport

To do this	Press this button
Eject the cassette	
Change the playback side	and  simultaneously
Fast-forward the tape (upper side)	
Fast-forward the tape (lower side)	
Rewind the tape (upper side)	
Rewind the tape (lower side)	
Stop the tape and turn the unit off	<b>PWR</b>

To stop fast-forwarding or rewinding and resume playback, press halfway or , whichever corresponds to opposite of the direction of the current tape transport.

### Auto reverse function

When the end of the tape is reached during playback or fast tape transport, the direction of the tape is automatically reversed, and playback starts again.

### Direction indications

FW	Displayed when the upper side of the cassette is being played.
REV	Displayed when the lower side of the cassette is being played.

### Tape transport display

When you start tape playback, the transport display indicates the tape movement.

Upper side: During playback	
Lower side: During playback	

During fast-forwarding or rewinding, "TAPE" indication flashes.

### Before turning the Ignition off

Be sure to eject any cassette from the unit before turning the ignition off. Otherwise, the unit may be damaged when you detach the control panel.

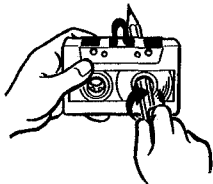
### Switching modes

When the unit is in Radio or CD Changer Play mode, inserting a cassette switches the unit to Tape Play mode automatically.

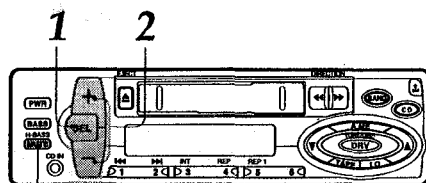
### To prevent tape problems

Before inserting a cassette into the unit, make sure that there is no slack in the tape. If necessary, take up the slack by inserting a pencil into the spindle hole and winding.

90-minute or longer tapes are extremely thin and easily deformed or damaged. They are not recommended.



## SOUND ADJUSTMENTS



### MUTE

- 1 Press SEL to select the mode that you wish to adjust from: VOL (volume), BASS (bass), TRE (treble), BAL (balance) and FAD (fader).**

The following indications are displayed in cyclic order.

The selected mode switches to Volume mode if you do not proceed with step 2 within 5 seconds.

- 2 Press +/- to adjust the level.**

Press and hold either button to change the level rapidly.

	-	+
VOL	Decreases the volume level	Increases the volume level
BASS	Decreases the bass level	Increases the bass level
TRE	Decreases the treble level	Increases the treble level
BAL	Decreases the level of the right speaker(s)	Decreases the level of the left speaker(s)
FAD	Decreases the level of the front speakers	Decreases the level of the rear speakers

Without selecting any mode with SEL, only the volume level can be adjusted by pressing +/-.

continued

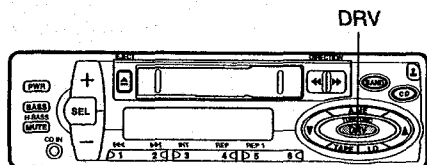
## SOUND ADJUSTMENTS

### MUTE button

Press this button to temporarily lower the volume.  
Press it again to restore the previous volume.

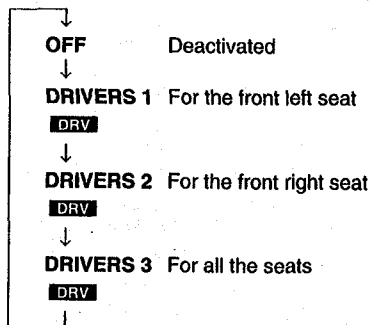
### DRV (Drivers sound stage adjustment)

You can adjust the position of sound stage to best serve a particular seat just by pressing DRV.



Press DRV to change the position of sound stage.

Every time you press DRV, the sound stage changes as follows.



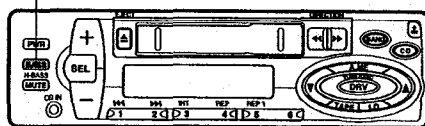
### Note

When the DRV is activated, you can not adjust BAL (balance) and FAD (fader) mode.

## H-BASS (High BASS)

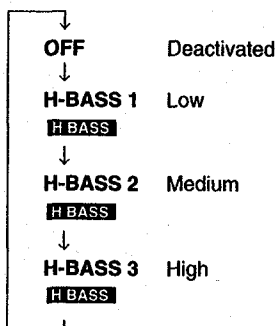
You can enjoy music with strong bass sound.

### H-BASS



Press H-BASS to obtain powerful bass.

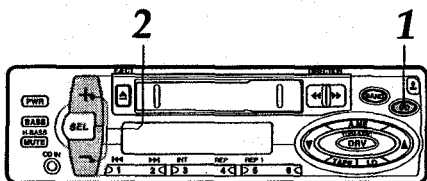
Each time you press H-BASS, the bass sound level changes as follows.



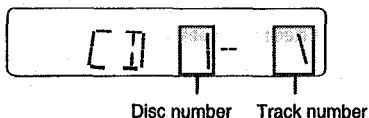
# CD CHANGER PLAY

You can play CDs with this unit by connecting the optional AIWA ADC-M55, ADC-M35 compact disc changer. Make sure that the disc magazine loaded with the discs is inserted in the connected compact disc changer.

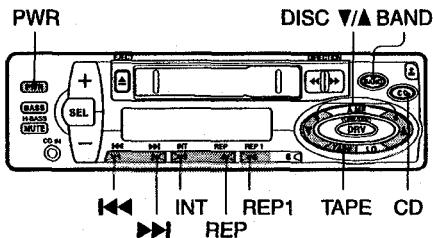
To install the unit, refer to the separate Installation and Connections Manual.



- 1 Press CD to start playing from disc 1.**  
The disc and track numbers appear.



- 2 Adjust the volume with +/-.**



Press following buttons to operate the connected compact disc changer.

To do this	Press this button
To pause	CD
To resume	CD

## To switch modes

- To turn off the unit, press PWR.
- Even if the unit is in Radio or Tape Play mode, pressing CD switches the unit to CD Changer Play mode.
- If you wish to switch to another mode, press the following buttons.
  - Pressing TAPE switches the unit to Tape Play mode.
  - Pressing BAND switches the unit to Radio mode.

## To skip tracks

Buttons	Press'	Press and hold
▶▶	Skips to the next track	Advances rapidly Releases to resume play
◀◀	Skips back to the beginning of the current track	Reverses rapidly Releases to resume play

\* Press for less than 0.5 second.

## To play other disc

To start playing the previous disc in the disc magazine, press DISC ▼.

To start playing the next disc, press DISC ▲. The number of the disc (1–6) appears.

## Repeat play

To repeat the current track, press REP (the "REPEAT" indication appears).

To repeat the current disc, press REP 1.

To deactivate either mode, press the same button again.

## Intro play

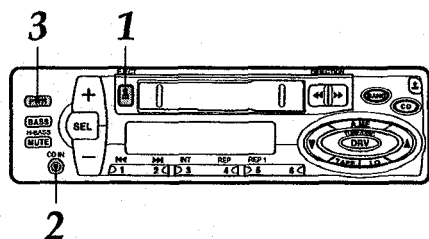
Press INT. (The "SCAN" indication appears.)  
The first 10 seconds of each track on all the discs in the disc magazine will be played in sequence.  
To deactivate Intro play, press INT again.

## Note

By pressing one of the following buttons, you can deactivate Repeat play and Intro play: DISC ▼, DISC ▲, ▶▶, ◀◀, INT, REP, REP 1, PWR.

## CONNECTING A PORTABLE CD PLAYER OR OTHER EQUIPMENT

This unit is equipped with the line-level input (CD IN) jack enabling high quality of the sound.



- 1 If a cassette is inserted, remove it to prevent possible damage to the unit.
- 2 Connect a portable CD player, etc. via the CD IN jack (3.5-mm dia.) on the unit.
- 3 Press PWR to listen to the connected equipment.

The "CD IN" indication appears.

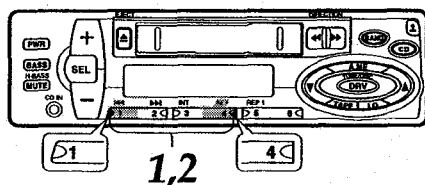
- For further information on the portable CD player, etc., refer to the operating instructions for the equipment.

### Notes

- Connecting a plug to the CD IN jack deactivates Radio, Tape Play and CD Changer play mode and activates CD IN mode. Disconnecting the plug deactivates CD IN mode and returns the unit to its former status.
- When the timer is activated (page 9), connecting a plug to the CD IN jack does not switch the unit to CD IN mode. Press TAPE, CD, or BAND before connecting the plug to the CD IN jack.

## SETTING THE BEEP TONE

The unit is preset at the factory to beep each time you press any button on the front panel except OPEN. You can stop beeping by following the procedure below.



- 1 Press and hold down 1 and 4 at the same time while the unit is turned on. The "BEEP ON" or "BEEP OFF" indication alternately appears in the display window.
- 2 Release the buttons when the indication of a desired beep tone mode appears. The indication returns to the current source mode and the selected beep tone mode is activated.

## TROUBLESHOOTING

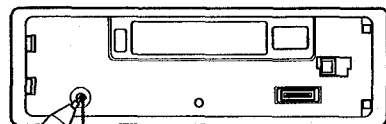
### Error codes

In the following cases the corresponding error code indication appears. Follow the suggestions below to solve the problem. If the error code indication does not disappear, consult an AIWA service center.

- ERROR01** The disc magazine is not properly inserted in the compact disc changer. Reinsert the magazine. Refer to the instruction manual for the compact disc changer.
- ERROR02** No discs are loaded in the disc magazine. Insert discs properly. Refer to the instruction manual for the compact disc changer.
- ERROR03** Focus error. Check that the discs are loaded properly in the disc magazine (right side up, etc.)
- ERROR04** Problem with the compact disc changer. Reset the unit by pressing the reset button. If this does not solve the problem, consult an AIWA service center.
- ERROR05** The compact disc changer is overheated. Allow the changer to cool off by moving the vehicle out of direct sunlight.

### Reset button

The Reset button is visible when you detach the front panel. Try pressing this button if a connected compact disc changer does not operate properly. To press this button, use the tip of a pointed object such as a pencil or toothpick. Note that all your setting stored in memory, however, will be erased by pressing this button.



Reset button

## MAINTENANCE

### Cleaning the front panel

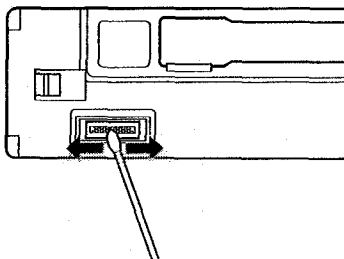
When the front panel is soiled, wipe the surface of the panel with a dry and soft cloth.

### Cleaning the tape head

Use a cleaning cassette to clean the playback head and capstans approximately once a month. If the playback head is dirty, the high tones may not be reproduced properly.

### Cleaning the connector

The connector on the reverse side of the front panel needs to be cleaned occasionally. Wipe the surface of the connector with a cotton swab slightly moistened with alcohol.



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# SPECIFICATIONS

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## RADIO SECTION

### (FM)

Frequency Range: 87.5 MHz–108 MHz  
(100-kHz steps)  
87.5 MHz–108 MHz  
(50-kHz steps)  
Usable Sensitivity: 12.7 dBf  
50 dB Quieting Sensitivity: 17.2 dBf  
IF Rejection: 80 dB  
Frequency Response: 30 Hz–15,000 Hz  
S/N Ratio: 63 dB  
Stereo Separation: 35 dB at 1 kHz  
Alternate Channel Selectivity: 70 dB  
Capture Ratio: 3 dB

### (AM)

Frequency Range: 530 kHz–1,710 kHz  
(10-kHz steps)  
531 kHz–1,602 kHz  
(9-kHz steps)  
Usable Sensitivity: 30  $\mu$ V (30 dB)

## TAPE SECTION

Wow/Flutter: 0.35% (JIS)  
Tape Speed: 4.8 cm/sec. (1 $\frac{7}{8}$  ips)  
S/N Ratio: 50 dB  
Frequency Response: 40 Hz–14,000 Hz  
Stereo Separation: 40 dB  
FF/REW Time: 190 sec. (C-60)

## AUDIO SECTION

Max. Power Output: 35 W  $\times$  4 channels

### CD IN input

Input sensitivity (load impedance)  
CD IN: 500 mV (10 k $\Omega$ )

## GENERAL

Power-Supply Voltage: 14.4 V (11 to 16 V allowable),  
DC, negative ground  
Load Impedance: 4  $\Omega$   
Tone Control: Bass  $\pm$  10 dB at 100 Hz  
Treble  $\pm$  10 dB at 10 kHz  
Preamp Output Voltage (load impedance):  
2.2 V (10 k $\Omega$ )  
Installation size: 182 (W)  $\times$  53 (H)  $\times$   
155 (D) mm  
(7 $\frac{1}{4}$  (W)  $\times$  2 $\frac{1}{8}$  (H)  $\times$   
6 $\frac{1}{8}$  (D) inches)  
Accessory supplied: Carrying case (1)

- Specifications and external appearance are subject to change without notice due to product improvement.